RESTRICTED

HEADQUARTERS
MEDITERRANEAN THEATER OF OPERATIONS
Office of the Surgeon
APO 512

2 January 1945

CIRCULAR LETTER NO. 2

SUBJECT: The Management and Disposition of Patients Suffering from "Trench Foot".

1. "Trench foot", as seen in this theater, results from exposure to a combination of cold and wet. It differs from frostbite in its clinical picture since damage is usually greater in the deeper structures.

2. Obviously, the most important aspect of this type of physical injury is its prevention, but when due to circumstances "trench foot" develops, then the problem of its management resolves into questions of accurate diagnosis, conservative treatment of the disease, and the intelligent disposition of patients. In a consideration of these points it will be necessary from a therapeutic and administrative point of view to divide the theater into two echelons; the first embracing the forward area under army, corps, and divisional control, while the second echelon represents the Zone of Communications.

3. Obviously with this division, primary concern should be with accurate diagnosis in the first echelon, where "trench foot", resulting from capillary and tissue injury, must be differentiated from pedal conditions due to fungus infections, trauma, improperly fitting foot gear, painful orthopaedic disturbances of the feet, and certain other disabilities caused by poor pedal hygiene. This differentiation is necessary since many of the above named affections can be treated successfully or corrected within the first echelon, while in many instances, because of vascular injury "trench foot" will need prolonged treatment and should be evacuated to the second echelon.

4. The management of "trench foot" in the first echelon:

a. Unless actual gangrene or a superimposed clinical infection requiring immediate surgical care is found, all patients suffering from "trench foot" should be sent to the medical services of first echelon hospital units.

b. When a patient allegedly suffering from "trench foot" enters the medical service of a first echelon unit, the medical officer in charge of the ward, should carefully examine the feet of the patient, separate and immediately change the diagnosis of those individuals suffering from fungus infections, orthopaedic disabilities, trauma, or disturbances due to poor pedal hygiene. These patients should be treated in the first echelon if, from the prognostic point of view, the period for successful treatment will not exceed the number of days allotted in the evacuation policy of the first echelon.

The following points may be helpful: (In differentiating the patients suffering from "trench foot".)

(1) A history of prolonged wet, cold feet with development of pain or loss of sensation in the feet.

(2) The feet may be red, swollen, painful, and extremely tender. They may also have a waxy, blanched appearance. The swelling is an important sign and care must be taken not to mistake the redness and swelling of "trench foot" for a cellulitis due to infection. Blebs or bullae may be present and areas of hypasthesia or true anesthesia are frequently found. Pain (frequently much worse at night) is a fairly constant symptom.

(3) Patients suffering from "trench foot" almost universally state that their feet feel better when exposed to the open air at the temperature of the ward tent. Their feet feel better in cool air.

c. Patients with subjective symptoms whose pedal extremities show no swelling and who have no or minimal objective findings should be retained in army area for treatment.

d. Definitive treatment in the first echelon will of necessity be limited primarily to patients who will be returned to duty from that area. Every effort should be made to eliminate superficial minor infections. The feet should be kept cool and dry. The patient should be gotten up and about as soon as is consistent with his condition. Indoctrination in pedal hygiene should be carried out daily by the ward medical officer. Socks of the desired type and suitable shoes should be provided for the patient. From the beginning of therapy, emphasis should be placed upon the fact that the patient is going back to general duty, and that he will be sent back to duty with proper foot gear.

e. Patients who are going to be evacuated to the second echelon will usually have objective findings, and conservative treatment is indicated unless a gangrene or infection necessitating immediate surgical attention is present. The feet should be kept dry and clean and placed in the open air in a slightly elevated position, if such a procedure adds to the comfort of the patient. Heat, in general, is not tolerated. Blebs and bullae should not be opened unless infected, and if superficial infection is present, mild nonirritating measures should be used for its control. It should ever be borne in mind that the pedal skin of these patients is far more susceptible to chemical irritants than is normal skin. The patients should be kept in bed until the swelling disappears. If they are to be evacuated while swelling is still present, it is recommended that they be evacuated as litter cases. To protect the patient's feet during evacuation against incidental trauma, it is recommended that the affected feet be lightly swathed (not bandaged) in several thicknesses of clean gauze.

5. The management of "trench foot" in the second echelon:

a. Patients suffering from "trench foot" sufficiently severe to require evacuation to the second echelon usually should be treated in general hospitals. Patients will be admitted to the surgical service in second echelon

hospitals upon presence of gangrene or infection for which surgical treatment is necessary. Otherwise, they will be sent to the medical service of these hospitals.

b. Conservative treatment designed to eliminate superficial infection and to reduce the pain and swelling should be used in the early stages of "trench foot". If gangrene is not present, moderate elevation of the feet is desirable. Blebs and bullae should not be opened unless they are infected. Superficial infections should be carefully treated with mild remedies in order to avoid chemical irritation of already injured skin. The feet should be kept dry, and every precaution should be taken to prevent maceration of the skin. Sympathectomy, or sympathetic block, is not recommended because, although some temporary symptomatic relief may be gained, the lasting results of these procedures are such as not to warrant their use. Patients should be kept off their feet until the swelling has completely disappeared, the blebs or bullae resorbed, infection cleared up, skin continuity restored, and the pain ameliorated. At this time patients suffering from "trench foot" may be allowed up and around the ward and can be continued up, provided symptoms and signs of the disability do not reappear.

c. Patients whose feet show the following symptoms and signs after 30 days of conservative treatment may be considered as having had serious damage to the tissues of their feet:

(1) Blue, or cold feet with vasomotor changes with or without hyperhidrosis.

(2) Pain and swelling after walking short distances.

(3) Loss of cornified epithelium on the soles of the feet, resulting in tender "tissue paper" skin very prone to blister.

(4) Atrophy of the subcutaneous tissue and/or the muscles of the feet which results in an acute breakdown of the transverse or longitudinal arches.

(5) Persistent patches of hyperesthesia, hypasthesia, or anesthesia.

6. The proper disposition of patients suffering from "trench foot" should be a matter of primary concern to the disposition boards in station and general hospitals of the second echelon. It must be remembered that while it is the primary duty of the Medical Department to maintain manpower, patients sent back to general or limited assignments must be able to perform the duties recommended by the Medical Corps. It is of little value to send back a man who will promptly become a physical liability to a service or combat unit. Hence, the case of each patient must be strictly individualized by disposition boards, and the type of duty recommended be based upon the known fact that a patient who has suffered from "trench foot" is very susceptible to cold and wet and may be unable to march or stand for period of time without producing a return of symptoms. Therefore, the following bread criteria are suggested for the disposition of these patients:

a. General Duty. The patient must be able to pass an exercise tolerance test similar to that outlined for hepatitis in Circular Letter Number 37, Office of the Surgeon, Headquarters NATOUSA, dated 8 July 1944. The skin of the feet should be normal, free from lesions or loss of subcutaneous tissue and anesthesia, paresthesia or marked hyperhidrosis should not be present.

b. Limited Assignment. The patient should be able to stand a two mile walk or two hours on guard duty. The skin of the feet should be normal, free from infection or loss of subcutaneous tissue and anesthesia, paresthesia or hyperhidrosis should not be present. In recommending the patient for limited assignment it should be stressed that he should be kept away from the cold and wet.

c. Patients not falling into the two categories mentioned above, should be considered individually as possible candidates for evacuation to the Zone of the Interior.

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